Public Safety Interoperability in Iowa
Thomas Lampe- Chairman ISICSB

OVERVIEW PART 1

911 COMMISSION REPORT

- Report finds that on 9/11 the lack of interoperable communications among public safety resulted in lost lives
- Commission recommends each state look at interoperability.

WHAT DOES INTEROPERABILITY MEAN?

- *Definition:*
  - *"Interoperability is the ability for public safety and public services to talk and or share data in real time on demand, when needed, and when authorized."*

IOWA COMMUNICATIONS INTEROPERABILITY STRATEGY REPORT TO THE GOVERNOR 2004

- 2004: Governor formed Iowa Communications Task Force
- Committee: Law Enforcement Administrators Telecommunications Advisory Committee. (LEATAC) is recommended by Task Force to make recommendations.
- October, 2004: Task Force submits recommendations to the Governor
  - Identified issues, obstacles, lack of interoperability in Iowa; Recommended solutions and direction for Iowa
  - Development of a statewide communications strategy with long and short term goals.
  - Governance structure was recommended

IOWA STATEWIDE INTEROPERABILITY COMMUNICATIONS SYSTEMS BOARD IS FORMED (ISICSB)

- 2007: Senate file 353 passed; Governor signed
- Iowa Code Chapter 80, Sections 80.28 and 80.29 established
  - Charged permanent body with responsibility
  - Listed 13 specific mandates to improve interoperability
  - Annual reporting to the Legislature
- No Funding was allocated

MISSION OF THE BOARD

- All emergency response entities in Iowa can access common interoperable statewide voice and data systems within established guidelines

IOWA STATEWIDE INTEROPERABLE COMMUNICATIONS SYSTEM BOARD (ISICSB)

- Board established under the purview of DPS and DOT.
- 19 Members-
  - LOCAL AGENCIES: SHERIFF(2), POLICE(2), FIRE(2), , COMM SUPVRS(2); At-Large;(1)
  - STATE(6) DOT,DPS,DOC, DNR, DPH, HSEMD
  - 4 LEGISLATIVE EX-OFFICIO MEMBERS:
    - Sens. Ernst and Brase
    - Reps. Kressig and Rogers

DUTIES

- :The board shall develop, implement, and oversee policy, operations, and fiscal components of communications interoperability efforts at the state and local level, and coordinate with similar efforts at the federal level, with the ultimate objective of developing and overseeing the operation of a statewide integrated public safety communications interoperability system

STANDING COMMITTEES

- Governance
- Outreach/Training
- Broadband
- Finance
- Technology
- Operations
- + FCC Regional Coord. Planning Committee

MASTER PLAN FOR IOWA

- Master plan recommends 700 Mhz system
- $336 million to complete

BOARD'S ONLY FUNDS = FEDERAL GRANTS

- Series of three (3) year grants
- 2007: Upgrade public safety equipment in Iowa.
- 2008: SWIC cost and travel payments for Interoperability, operating costs, training etc
- 2009: Federal grant for SWIC and Narrowbanding education/training E911 feasibility study.

BOARD'S FUNDING

- 2010: Federal grant used for SWIC position along with training costs and some operating expenses of the board.
- Conservatively budgeted to last 4 years
- 2010 Grant expired in May, 2013;
- Extension denied by FEMA (national policy / sequestration)
- 2012: Legislation (Sen. Hancock) appropriated $48,000 for operational exenses– one (1) time funding

MASTER PLAN NOT FUNDED

- $336 million too costly
- Board continues to develop ways to improve interoperability with existing systems. (new policies, POC legislation
- 2012: Alternative Legislative proposal - Connect existing systems - Not funded
- 2013: DPS,DOT,DNR,DOC working with DAS and consultant on Radio/700 mhz radio system RFP. Released November 1st, 2013.

DPS-DOT-DNR-DOC WORK TOGETHER

- DPS radio system outdated and inefficient
- Consistent interoperability issues during multi response events. (i.e. Bank Robbers in N.E. Iowa)
- RFP for radios and infrastructure will ask for use of State infrastructure for options on maximum coverage.
- This system will be the anchor network
- DPS, DOT, DOC, DNR, initial users
- Counties in Iowa may use the network
- Connect the existing systems in the State for maximum interoperability.

IMPROVING INTEROPERABILITY IN IOWA

- Interoperability Board approves a Standard Channel Policy.
- National Interoperability Channels placed in all radios and consoles. *800 MHz, VHF, UHF
- Gateway training
- Public Safety Communications Center Operations Workshops
- CASM tool training. (Communication Assets Survey and Mapping.)
- STR- Strategic Technology Reserve Trailers
- Statewide Communications Interoperability Implementation Plan. (SCIP)

IOWA INTEROPERABILITY OVERVIEW PART 2

NATIONAL PUBLIC SAFETY BROADBAND NETWORK -FIRSTNET

- Signed into law February 2012
- Coming to Iowa and all states in the country
- 1 nationwide data network
- $7 Billion funding
- Public Safety enhanced interoperability
- Data only

POINT OF CONTACT

- Each state had to establish a POC
- Iowa Interoperability Board is the POC-Chair Lampe
- Serves as conduit for discussions with FirstNet

STATE LOCAL IMPLEMENTATION GRANT PROGRAM (SLIGP)

- ISICSB awarded grant August 16th, 2013
- Iowa was in the second group of states to receive the award
- $2 Million dollars
- 2 Phases
- Phase 1 – $1 M for planning, outreach, governance
- Phase 2 - $1 M for asset/infrastructure data collection for use in architecture of the network

OUTREACH PLANNING FOR FIRSTNET

- All 99 counties in 3 years
- Regional Governance established in Homeland Security Designated Regions
- Outreach consultant needed

IOWA AND FIRSTNET

- FIRSTNET will come to Iowa
- Discussion on opt-in or opt-out
- Iowa has resources to offer

BOARD MEETINGS

- Last Wednesday of the month
- West Des Moines City Council Chambers
- We do hold regional meetings across the state in the summer.
- February 26th, 2014 at State Capital room 304
- E911 Council schedules meetings same dates/locations for coordination
- Related initiative: NG911 being built out in Iowa

BOARD FTE'S

- No state funded FTEs
- Statewide Interoperability Coordinator (SWIC) is funded currently by Broadband Grant funds and partial DPS and DOT split. 30%

SWIC POSITION

- Contract with the board expires February 28th 2014.
- No state funding has been allocated
- Critical position for Iowa and the Board
- No budget for non-broadband interoperability needs


ISICSB
911
Iowa Statewide
Interoperable
Communications
System Board

Homeland Security
Office of Emergency Communications

October 2012

The Impact of the Nationwide Public Safety Broadband Network for Operational Personnel

The continued evolution of commercial wireless data services **and rapid development of new technologies and applications has led to on-demand access to information, with increased speeds, and with greater accessibility throughout the country**. However, these advances **have largely bypassed emergency responders**. More than 55,000 public safety agencies across the United States rely on individual Land Mobile Radio (LMR) networks, which support mission critical voice communications.

Currently, first responders largely augment LMR capabilities with commercial cellular service and/or agency-owned legacy data systems that provide relatively slow speed mobile data capabilities. Some agencies have also created mobile data systems using a variety of technologies to supplement legacy, agency-owned systems with newer offerings such as WiFi, WIMAX, and 4.9GHz broadband systems. These systems provide public safety personnel with capabilities to perform functions such as dispatch and Computer Aided Dispatch (CAD) system inquiries, various National Crime Information Center (NCIC) and National and State Criminal Justice Information System (CJIS) queries, dispatcher-to-unit and unit-to-unit messaging, and the transmission of low resolution images. Some networks also support records management systems (RMS) inquiries and in-field reporting capabilities for law enforcement, fire, and EMS personnel. Mobile data systems also provide an alternative communications capability and, in many cases, interoperability pathways for agencies sharing larger systems or using commercial offerings.

The February 2012 passage of the Middle Class Tax Relief and Job Creation Act of 2012 enables the public safety community to fully leverage advancements in broadband technology, specifically Long Term Evolution (LTE), to develop and deploy an interoperable Nationwide Public Safety Broadband Network (NPSBN). LTE is the next evolution of commercial wireless communications technology developed to address the increasing demand for data communications. As of mid-August 2012, a total of 98 LTE networks were deployed in 49 countries with an additional 342 networks planned or under development. LTE promises higher data transmission rates and capacity than other current commercial service offerings, allowing for high-speed access to information. Commercial LTE does not currently support public safety grade mission critical voice communications; priority access for public safety users; or push-to-talk, multi-broadcast, or "talk around" capabilities required by the public safety community. In addition, commercial LTE may not have the capacity to be accessible during an event or emergency.

THE NPSBN

The NPSBN will be a dedicated, wireless, interoperable, communications network that allows public safety to receive and share critical information with their counterparts across the Nation. The First Responder Network Authority (FirstNet) is an independent authority within the Department of Commerce's National Telecommunications and Information Administration that will hold the spectrum license for the NPSBN; specify the network requirements; develop a plan for network deployment for each State; and work with State, local, and tribal governments to create an interoperable, nationwide network. The FirstNet Board is composed of 15 members to include the Secretary of Homeland Security, the Attorney General of the United States, the Director of the Office of Management and Budget, and 12 experts with experience in the public safety, technical, network, or financial fields.

The NPSBN will embrace open commercial technology standards, possess built-in backup capabilities, and provide highly-available public safety-grade access to emergency response personnel. The network will provide emergency responders with the ability to have high speed access and exchange information in various forms, including pictures, graphics, video, and non-mission critical voice applications. Public safety will operate on a single network with a single Public Land Mobile Network ID, include nationally consistent technology and standards, and leverage uniform agreements with national commercial carriers. It is expected that First responders will not encounter roaming issues when traveling outside of one's home jurisdiction, as they will still be operating on the dedicated public safety network. First responders will only roam on commercial networks when outside of the NPSBN coverage area or if required due to network congestion and lack of capacity on the NPSBN.

Public safety will continue to rely on LMR and legacy communications systems for mission critical voice communications as the NPSBN evolves; therefore, LMR voice capabilities will be used by first responders for the foreseeable future. Investments in LMR infrastructure, subscriber devices, and overall system maintenance will continue for the foreseeable future, and agencies must begin, or continue, to implement emerging wireless broadband services and applications. Once the network is deployed public safety organizations may begin transitioning from using commercial broadband services to the dedicated NPSBN.

THE NPSBN AND THE FUTURE OF PUBLIC SAFETY OPERATIONS

The NPSBN will provide the emergency response community with mission critical voice, data, and video capabilities and access to real-time information. As a result, first responders will be able to communicate across agency and jurisdictional boundaries, have access to more effective emergency communications on a nationwide scale. LTE will provide the public safety community with reliable, redundant, and resilient technology and provide the potential benefit of purchasing lower cost equipment manufactured on a global scale. LTE systems are scalable, allowing system operators to tailor their network deployment strategies and add spectrum to meet the needs of available resources and/or a particular technology.

As the Nation's public safety entities increasingly employ broadband technologies, it is important to consider how emergency responders will use the nationwide network. While there currently is no timeframe for when the NPSBN will be fully operational, telephony voice and adjunct voice services will be deployed and available for first responder use prior to mission critical voice services. The future network will also provide services such as:

- Remote CAD access
- Geo-spatial applications
- Telemedicine for EMS
- Next generation 9-1-1 (NG9-1-1)
- Real-time resources tracking
- Enhanced field reporting.

The network will allow first responders to securely and reliably gain situational awareness, share information with their counterparts in other locations and agencies, conduct safer and more effective operations by enhancing the effectiveness of emergency communications throughout the Nation, and engage in response operations on a nationwide scale, all while operating on a single network.

The Benefits of Using LTE for Public Safety Communications:

√ Access to technological advances to include mobile data and video capabilities
√ Leverage potential cost savings by providing access to an increasing number of providers, manufacturers, and devices (handsets, mobile terminals and connective devices)
√ Network scalability will allow operators to tailor network deployment strategies and spectrum needs.
√ Use new and enhanced information sources, applications, and capabilities to conduct operations faster, more efficiently, and in greater detail. Applications include: remote CAD access, geo-spatial applications for personnel tracking, telemedicine, and NG9-1-1
√ Leverage experience of worldwide LTE deployments

FOR ADDITIONAL INFORMATION

Please contact OEC@dhs.gov or visit www.dhs.gov (keyword OEC).

National Public Safety Telecommunications Council

Why Can't Public Safety Just Use Cell Phones and Smart Phones for Their Mission Critical Voice Communications?

It's not that simple.

Commercial Cellular Voice is Different

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Why Can't Public Safety Just Use the Planned Nationwide Public Safety Broadband Network for Their Mission Critical Voice Communications?

Again, it's not that simple.

The National Public Safety Telecommunications Council (NPTSC) is a federation of organizations whose mission is to improve public safety communications and interoperability through collaborative leadership.

Voting Members

1. AASHTO .....American Association of State Highway and Transportation Officials
2. ARRL .....American Radio Relay League
3. AFWA .....Association of Fish and Wildlife Agencies
4. APCO.....Association of Public-Safety Communications Officials – International
5. FCCA .....Forestry Conservation Communications Association
6. IACP.....International Association of Chiefs of Police
7. IAEM .....International Association of Emergency Managers
8. IAFC.....International Association of Fire Chiefs
9. IMSA .....International Municipal Signal Association
10. NASCIO .....National Association of State Chief Information Officers
11. NASEMSO .....National Association of State Emergency Medical Services Officials
12. NASF .....National Association of State Foresters
13. NASTD.....National Association of State Technology Directors
14. NENA.....National Emergency Number Association
15. NSA.....National Sheriffs' Association

Associate Members (Non-Voting)

1. ATIS.....Alliance for Telecommunications Industry Solutions
2. CITIG .....Canadian Interoperability Technology Interest Group
3. NCSWIC.....National Council of Statewide Interoperability Coordinators
4. TIA.....Telecommunications Industry Association
5. UTC.....Utilities Telecom Council

Liaison Organizations (Non-Voting)

1. FCC .....Federal Communications Commission
2. FEMA.....Federal Emergency Management Agency
3. FPIC .....Federal Partnership for Interoperable Communications
4. NTIA .....National Telecommunications and Information Association
5. OEC.....Office of Emergency Communications
6. OIC .....Office for Interoperability and Compatibility
7. PSCE .....Public Safety Communication Europe
8. US DOI.....US Department of the Interior
9. US DOJ.....US Department of Justice

Resources:

NPSTC Mission Critical Voice Definition
http://www.pscr.gov/projects/broadband/reqs_stds/Functional_Description_MCV_v5.pdf

Voice over Broadband Articles:

Voice and Public Safety Broadband http://andrewseybold.com/3038-voice-over-public-safety-broadband

Mission-Critical Voice over LTE: What, When and How?
http://andrewseybold.com/2772-mission-critical-voice-over-lte-what-when-and-how

Mission-Critical Voice and LTE: Be Careful
http://andrewseybold.com/2772-mission-critical-voice-over-lte-what-when-and-how

PUBLIC NOTICE

Policy Release Number: ISICSMC12-B

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State of Iowa

Minimum Interoperable Radio Channels & Nomenclature

Effective Date: Jan. 1, 2014

All Public Safety Radios should be programmed to include these channels (as applicable to your frequency band and as channel capacity allows) by the effective date of January 1, 2014.

This statewide minimum interoperability channel plan will improve multi-agency interoperability for communication by Land Mobile Radio (LMR) systems at times of a major incident and/or need.

IF YOU HAVE **VHF**	IF YOU HAVE **UHF**	IF YOU HAVE **700 MHZ**	IF YOU HAVE **800 MHZ**
YOU SHOULD HAVE ALL OF THE FOLLOWING MINIMUM BASELINE CAPABILITIES	YOU SHOULD HAVE ALL OF THE FOLLOWING MINIMUM BASELINE CAPABILITIES	YOU SHOULD HAVE ALL OF THE FOLLOWING MINIMUM BASELINE CAPABILITIES	YOU SHOULD HAVE ALL OF THE FOLLOWING MINIMUM BASELINE CAPABILITIES
VCALL10 VTAC11 VTAC12 VTAC13 VTAC14 DISCIPLINE SPECIFIC VFIRE21 VLAW31 VMED28	UCALL40 UCALL40D UTAC41 UTAC41D UTAC42 UTAC42D UTAC43 UTAC43D	7CALL50 7CALL50D 7TAC51 7TAC51D 7TAC52 7TAC52D 7TAC53 7TAC53D 7TAC54 7TAC54D 7TAC55 7TAC55D	8CALL90 8CALL90D 8TAC91 8TAC91D 8TAC92 8TAC92D 8TAC93 8TAC93D 8TAC94 8TAC94D

The following radio channel names will be changed as of January 1, 2014:

- State Fire Aid/Fire Mutual Aid (154.2800 MHz) - Now called VFIRE21
- Law Aid/Mutual Aid Law (155.4750 MHz) - Now called VLAW31
- State EMS/EMS Mutual Aid (155.3400 MHz) - Now called VMED28

In order to maintain consistency with current capabilities, agencies may wish to continue use of these frequencies, using the updated names.

Additional information can be found from the Iowa Statewide Interoperable Communications Systems Board (ISICSB) at www.isicsb.iowa.gov.